Africa racing against time to save genetic resources for food security

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In many African communities, the outbreak of the Coronavirus Covid-19 has resulted in a considerable interest in medicinal plants and some neglected traditional vegetables and fruits.

Species that were not of particular daily importance have all of a sudden gained popularity, and their usage has increased. But because of lack of interest in growing and preserving them over the years, many of the now much sought after species are nearly extinct or available in small quantities.

The above scenario highlights just one small part of the problem on a continent faced with significant loss of biodiversity or rather, plant genetic resources for food and commercial agriculture.

Today, Africa is said to be a continent with the lowest dietary diversity – diets that contains the least variety of food items – a significant cause of malnutrition and stunted growth.

Climate change, rapid urbanisation, and neglect of indigenous food crops are likely to worsen the situation.

Africa needs to up its game in the conservation of plant genetic resources, not only to reduce the risk of extinction of underutilised species, but also to ensure that they contribute to healthy diets and poverty alleviation.

One of the centres dedicated to addressing this problem is the World Vegetable Center in Arusha, Tanzania.

The centre, among other things, identifies, collects, and conserves genetic resources of traditional African vegetables, including endangered vegetables from across Africa to maintain biological diversity.

At global level, the biggest gene bank is in Svalbard, Norway; it curates nearly a million accessions, and they can stay viable for 1,000 years.

At the World Vegetable Center, varieties of vegetables such as Amaranth, jute mallow, African eggplant, African nightshade, spider plant, gallant soldier, and many others, some of which are considered weeds, are grown in carefully tended demonstration plots.

“Whoever controls your genetic resources controls you today and will control you tomorrow,” says Dr Gabri el Rugalema, the regional director for Eastern and Southern Africa at the World Vegetable Center.

According to the data collected from private companies, 58 per cent of the 4.9 tonnes of amaranth seeds sold in eastern Africa in 2017, were based on varieties developed by the World Vegetable Center.

Currently, about 50 per cent of tomato seeds and 98 per cent of African eggplant produced commercially in Eastern and Southern Africa are based on varieties developed by the World Vegetable Centre.

The World Vegetable Centre coupled with Tanzania Horticultural Association (Taha) business skills drive are attracting many youngsters who want to engage in horticulture.

The young farmers rely on market trends of certain vegetable varieties to ascertain the right time to plant so that they can supply the vegetables even if it’s traditionally off season.

“I’ve constructed a house for my mother at Maisaka suburb and I have just bought a plot at Sinai area where I will build my own house,” says Shaaban Ramadhan, 33, a resident of Babati Municipality in Manyara Region.

His tomato farm produces an average of 700 crates a season, earning him Tsh21 million (about $9,211). Labour costs him Tsh10,000 (about $4.4) a day since the crop needs tending.

Horticulture earns Tanzania over $700 million annually, up from $60 million in 2004, making it a nascent sector, for the provision of jobs and wealth creation.

With an annual growth rate of 12 per cent, the sector has turned into a driver of the Tanzania’s entire agricultural sector with an average growth rate of 4 per cent only.

As the global appetite for fresh produce increases, demand from overseas is growing for Tanzanian grown avocados, raspberries, lime, French beans, peas, baby carrots, sweet melon and spices as well as herbs such as ginger, chives, and mistletoe.

With the increasing demand for the vegetables and a conducive environment, the country is attracting higher learning institutions and large investors such as Rijk Zwaan, an international vegetable breeding company from The Netherlands.

WorldVeg also collaborates with Tanzania Agricultural Research Institute and Taha, private sector companies and Mul tiflower and TPC situated outside Moshi Municipality in Kilimanjaro Region.

Partners from tertiary education institutions include the University of Dar es Salaam, Sokoine University of Agriculture, Nelson Mandela Institution of Science and Technology and many others from inside and outside the Southern and Eastern Africa region.

“Taha Fresh Handling Ltd, a subsidiary logistics company of Taha, handling Tanzania’s horticultural exports, also offers opportunities for local vegetable farmers and exporters.

“Vegetable breeding and conservation and good utilisation of the genetic resources can be a money spinner now and in the future,” Dr Rugalema says.

“Who knows today’s vegetable may produce tomorrow’s wonder food,” Dr Rugalema says.